# Gel Electrophoresis Protocol

1. Prepare a 0.8% agarose gel by heating 0.4g agarose in 50ml 1xTAE in the microwave (~30sec to1min on full power) until completely dissolved. Use caution to not burn yourself or boil the solution over (an Erlenmeyer flask with a Kimwipe stuffed in the neck will help to prevent this).
2. Be sure that there are no "chunks" of agarose remaining that have not yet dissolved, as thiswill distort the migration of the nucleic acids through the gel.
1. Once the gel has cooled so that it is comfortable to touch the flask with your gloved hand, add 1.0 µl GelRed or GelGreen DNA stain to a 0.5x concentration.
    a. CAUTION: GelGreen and GelRed DNA stains are suspected carcinogens. Handle with caution.
2. Place the gel mold into the caster and tighten the rubber gasket. Pour the dissolved agarose into the gel mold and place comb in one end. (Be careful not to wait too long or the gel will start to solidify in the flask.) Pour slowly to avoid air bubbles or use the comb to push bubbles to the side of the mold. Allow the gel to solidify (this will typically take about 5-10 minutes).
3. Once the gel has solidified remove the comb. Place the gel in the electrophoresis rig with the wells closest to the negative (black) end and cover with 1x TAE buffer.
4. Add the appropriate amount 6x loading dye to each of the DNA samples. Load 6 µl of the 1kB Ladder in the first lane of the gel and follow with the DNA samples respectively.
5. the well and three dyes to visualize the progression of electrophoresis.
6. Check that the wells of the agarose gels are near the black (-) electrode and the base of the gel
7. Run the gel at ~100volts until the samples have run 3/4$^{th}$ the way down the gel (~50 min).
8. Analyze the gel and take a clear picture.